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ROBINSON'S

PROGRESSIVE

TABLE BOOK.

FOR YOUNG CHILDREN.

EDITED BY

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SUGGESTIONS TO TEACHERS.

THE author in the preparation of this little book, has aimed to present the first principles of Arithmetic in such a form as to interest and instruct the pupils of Primary Schools and classes.

The first lesson taught the child, in numbers, is *to count,* which, with the fundamental operations of *adding, subtracting, multiplying,,* and *dividing,* can be easily and successfully taught, by the *apt* teacher, by the proper use of the Numeral Frame, a box of beans, or marbles, or similar objects, which should always be found on the desk of the teacher of young children.

Only a *few* suggestions, methods, and applications can be presented in so small a work as this, as *specimen* lessons; and it is expected that the teacher will increase the *number* and *variety,* of the exercises on each page, *orally,* as the circumstances, and the capacity of the child, seem to require.

Examples should be multiplied under each lesson, for the purpose of fixing in the mind of the pupil the table, which should be thoroughly committed to memory. In order to insure this object, the tables should be repeated not only in the direct order, but promiscuously, and in a reversed order. Thus the child should be made to understand, that 3 and 5 is the same as 5 and 3; that 3 times 5 is the same as 5 times 3; that 5 and 5 and 5 is the same as 3 times 5; that if 3 is contained in 15, 5 times, 5 is contained in 15, 3 times, &c.

The hints and exercises on pages 10 and 11, as well as those on pages 24, 25, and 26, should be thoroughly understood and applied.

The pictures introduced are to interest the pupil, and also to illustrate some of the processes of Arithmetic, without the reasoning.

ARITHMETICAL TABLE BOOK.

LESSON I.

1. What is a single thing called?
Ans. *A Unit, or one.*
2. If another is put with it what is it called?
Ans. *Two.*

3. One doll and one doll are how many?
   One and one are how many?

4. Two quails and one quail are how many?
   Two and one are how many?

5. Three dogs and one dog are how many?
   Three and one are how many?

6. Four tops and one top are how many?
    Four and one are how many?

7. Five roses and one rose are how many?
    Five and one are how many?

8. Six crowns and one crown are how many?
    Six and one are how many?

9. Seven hives and one hive are how many?
    Seven and one are how many?

10. Eight flowers and one flower, are how many?
    Eight and one are how many?

11. Nine chairs and one chair are how many?
    Nine and one are how many?

LESSON II.

1. What do the words, one, two, three, four, &c.,
express ?   ANS. *Numbers.*

2. What is counting?
ANS. *Expressing numbers by words.*

3. What is a number ?
ANS. *A unit or a collection of units.*

4. How many ways to express numbers ?
ANS. *Three.*

5. Name them.
ANS. *By words, figures, and letters.*

6. Which is the most common method ?
ANS. *By figures.*

7. How many figures are used to express num-
bers ?   ANS. *Ten.*

8. Name them.
  Naught, One, Two, Three, Four, Five, Six, Seven, Eight, Nine.
ANS. 0,   1,   2,   3,   4,   5,   6,   7,   8,   9.

9. Here is a picture of some birds, count them.
How many are there ?   ANS. *Ten.*

10. Write on your slate the following figures :
1,   2,   3,   4,   5,   6,   7,   8,   9,   0.

11. How do you express ten by figures ?
ANS. *By placing the figure* 1 *before the cipher*
0; *thus,* 10.

LESSON III.

1. Count the drums in each row, and tell the number.

One   -   -   -   -   -   -   🥁   1

Two -   -   -   -   -   -   🥁🥁   2

Three -   -   -   -   🥁🥁🥁   3

Four   -   -   -   🥁🥁🥁🥁   4

Five   -   -   -   🥁🥁🥁🥁🥁   5

Six, &c. -   🥁🥁🥁🥁🥁🥁   6

                🥁🥁🥁🥁🥁🥁🥁   7

            🥁🥁🥁🥁🥁🥁🥁🥁   8

        🥁🥁🥁🥁🥁🥁🥁🥁🥁   9

🥁🥁🥁🥁🥁🥁🥁🥁🥁🥁   10

One. Two. Three. Four. Five. Six. Seven. Eight. Nine. Ten.
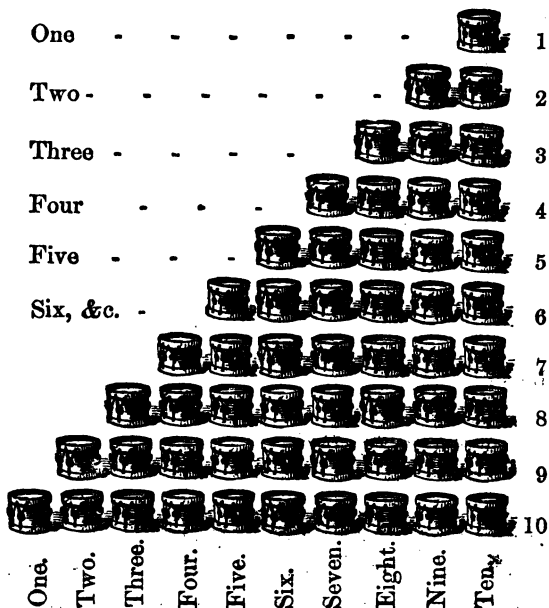
2. How many are 1 and 1 more? 2 and 1 more? 3 and 1 more? 4 and 1 more? 5 and 1 more? 6 and 1 more? 7 and 1 more? 8 and 1 more?

3. How many drums in the first and second lines counted together? In the second and third? In the third and fourth? In the second and fifth? In the third and seventh? In the first and ninth?

LESSON IV.

1. What is the method of expressing numbers by figures called?

Ans. *The Arabic Method.*

2. Why is it so called?

Ans. *Because it was first used by the Arabs.*

3. How many letters are used to express numbers? Ans. *Seven.*

4. What are they?

Ans. I, V, X, L, C, D, and M.

5. What does I stand for?

Ans. *One.*

6. What does V stand for?

Ans. *Five.*

7. What does X stand for?

Ans. *Ten.*

8. What does L stand for?

Ans. *Fifty.*

9. What does C stand for?

Ans. *One hundred.*

10. What does D stand for?

Ans. *Five hundred.*

11. What does M stand for?

Ans. *One thousand.*

12. What is this method called?

Ans. *The Roman Method.*

13. Why is it so called?

Ans. *Because it was first used by the Romans?*

LESSON V.

1. What is the effect of repeating a letter?

ANS. *Its value is repeated as many times as the letter.*

2. If I stands for one, how many do two I's stand for?

ANS. *Two.*

3. What is the effect of writing a letter of a less value *before* one of a greater?

ANS. *It diminishes the value of the greater.*

4. If, then, V stands for five, how many does IV stand for?

ANS. *Four.*

5. What is the effect of writing a letter of a less value *after* one of a greater?

ANS. *It increases the value of the greater.*

6. If then, X stands for ten, how many does XI stand for?

ANS. *Eleven.*

NUMBERS.	PRINTED FIGURES.	WRITTEN FIGURES.	ROMAN LETTERS.
Naught	0	*0*	
One	1	*1*	I
Two	2	*2*	II
Three	3	*3*	III
Four	4	*4*	IV
Five	5	*5*	V
Six	6	*6*	VI
Seven	7	*7*	VII

LESSON VI.

Eight	8	*8*	VIII
Nine	9	*9*	IX
Ten	10	*10*	X
Eleven	11	*11*	XI
Twelve	12	*12*	XII
Thirteen	13	*13*	XIII
Fourteen	14	*14*	XIV
Fifteen	15	*15*	XV
Sixteen	16	*16*	XVI
Seventeen	17	*17*	XVII
Eighteen	18	*18*	XVIII
Nineteen	19	*19*	XIX
Twenty	20	*20*	XX
Thirty	30	*30*	XXX
Forty	40	*40*	XL
Fifty	50	*50*	L
Sixty	60	*60*	LX
Seventy	70	*70*	LXX
Eighty	80	*80*	LXXX
Ninety	90	*90*	XC
One Hundred	100	*100*	C
Two Hundred	200	*200*	CC
Five Hundred	500	*500*	D
One Thousand	1000	*1000*	M

LESSON VII.
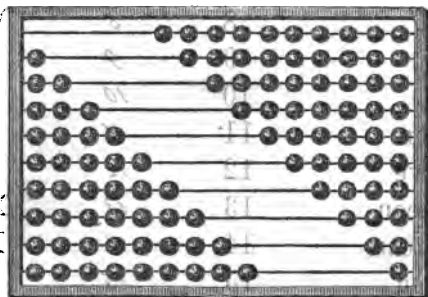
Here is a picture of a frame, with some balls on the wires, it is called the *Numeral Frame.**

How many wires are there? How many balls are one ball and one ball? Two balls and one ball? Three balls and one ball? Four balls and one ball? Five balls and one ball? Six balls and one ball? Seven balls and one ball? Eight balls and one ball? Nine balls and one ball? How many balls on each wire?

* The apt teacher, by a judicious use of this frame, may easily teach a child a great variety of mental exercises; to count from *one* to a *hundred*, and to *add, subtract, multiply,* and *divide,* with facility. The counting and other operations should be done *silently* by the *eye,* and *results* only, given by the voice. Adding or counting by *ones, twos, threes,* &c., up to *tens,* is an important exercise and easily performed by the use of this frame.

LESSON VIII.

Is there any figure that stands for ten? How then do we write ten? What does the 1 mean when it has a 0 on the right of it?

How many balls on the upper wire? How many on the second wire? How many on both together? *Twenty.* How then shall we write twenty? The figure 2 and a 0 at the right of it. What does the 2 mean, when it has a 0 at the right of it? *Two tens,* or *twenty.* How many are twice ten?

How many balls are there on the *three* upper wires? How many *tens* make thirty? Three times ten are how many? Write thirty: 30.

There are ten balls on the upper wire, and one by itself on the second wire; how many are ten balls and one ball? *Eleven.* Write the figures for eleven: 11. What does the 1 on the left stand for? On the right? How many are 10 and 1?

There are ten balls on the upper wire and two alone at the left on the third wire; how many are ten and two? *Twelve.* Write the figures for twelve: 12. What does the figure 1 stand for? The figure 2? 10 and 2 are how many?

Write thirteen in figures: 13. Write fourteen: 14. Fifteen: 15. Sixteen: 16. Seventeen: 17. Eighteen: 18. Nineteen: 19. What does the figure 1 stand for? The figure 9? 10 and 9 are how many?

LESSON IX.

1. What does ADDITION teach?

ANS. *The process of collecting several numbers into one.*

2. What is the result called?

ANS. *The* SUM *or* AMOUNT.

3. One rabbit and 1 rabbit are how many?

        1 and 1 are how many?

4. One fish and 2 fishes are how many fishes?

        1 and 2 are how many?   2 and 1?

5. One horse and 3 horses are how many?

        1 and 3 are how many?   3 and 1?

TABLE.

1 and	1	are	2	1 and	4	are how many?
1 and	2	are	3	1 and	3	are how many?
1 and	3	are	4	2 and	1	are how many?
1 and	4	are	5	5 and	1	are how many?
1 and	5	are	6	1 and	7	are how many?
1 and	6	are	7	1 and	10	are how many?
1 and	7	are	8	1 and	1	are how many?
1 and	8	are	9	1 and	9	are how many?
1 and	9	are	10	6 and	1	are how many?
1 and	10	are	11	8 and	1	are how many?

LESSON X.

1. Two ships and 1 ship are how many ships?
2 and 1 are how many?   1 and 2?

Two birds and 2 birds are how many birds?
2 and 2 are how many?

3. Jane has 2 tulips, and Ella has 3. How many have they both?
2 and 3 are how many?   3 and 2

4. 2 and 10 are how many?   10 and 2?

TABLE.

2 and	1 are	3	2 and 6 are how many?
2 and	2 are	4	2 and 4 are how many?
2 and	3 are	5	2 and 2 are how many?
2 and	4 are	6	2 and 7 are how many?
2 and	5 are	7	1 and 2 are how many?
2 and	6 are	8	3 and 2 are how many?
2 and	7 are	9	5 and 2 are how many?
2 and	8 are	10	10 and 2 are how many?
2 and	9 are	11	2 and 9 are how many?
2 and	10 are	12	2 and 8 are how many?

LESSON XI.

1. James has 3 flags, and Harry has 1.
    How many are 3 and 1?   1 and 3?

2. Charlie had 3 doves, and his father gave him
2 more.   How many doves had he then?
    How many are 3 and 2?   2 and 3?

3. How many are 3 and 5?   5 and 3?

4. How many are 3 and 7?   7 and 3?

TABLE.

3 and	1 are	4	2 and	3 are how many?
3 and	2 are	5	1 and	3 are how many?
3 and	3 are	6	4 and	3 are how many?
3 and	4 are	7	3 and	6 are how many?
3 and	5 are	8	3 and	4 are how many?
3 and	6 are	9	3 and	10 are how many?
3 and	7 are	10	3 and	7 are how many?
3 and	8 are	11	3 and	9 are how many?
3 and	9 are	12	3 and	8 are how many?
3 and	10 are	13	3 and	5 are how many?

LESSON XII.

1. A man made 4 barrels of sour cider, and 1 barrel of sweet cider.

How many are 4 and 1 ?   1 and 4 ?

2. Jane picked 4 pinks on one stem, and 3 on another. How many on both stems?

How many are 4 and 3 ?   3 and 4 ?

3. 4 soldiers and 5 soldiers, are how many ?

How many are 4 and 5 ?   5 and 4 ?

4. How many are 4 and 8 ?   8 and 4 ?

TABLE.

4 and 1 are 5	4 and 6 are how any ?
4 and 2 are 6	4 and 3 are how many ?
4 and 3 are 7	4 and 1 are how many ?
4 and 4 are 8	5 and 5 are how many ?
4 and 5 are 9	10 and 4 are how many ?
4 and 6 are 10	4 and 9 are how many ?
4 and 7 are 11	8 and 4 are how many ?
4 and 8 are 12	4 and 2 are how many ?
4 and 9 are 13	7 and 4 are how many ?
4 and 10 are 14	4 and 4 are how many ?

LESSON XIII.

1. Five horses were in one field, and 2 in another. How many horses in both fields?

How many are 5 and 2? 2 and 5?

2. Five acorns 'and 4 acorns. are how many acorns? 4 and 5?

3. How many are 5 shields and 5 shields?

5 and 5?

4. How many are 5 and 8? 8 and 5?

TABLE.

5 and	1	are	6	7 and	5 are how many?
5 and	2	are	7	3 and	5 are how many?
5 and	3	are	8	4 and	5 are how many?
5 and	4	are	9	1 and	5 are how many?
5 and	5	are	10	8 and	5 are how many?
5 and	6	are	11	5 and	2 are how many?
5 and	7	are	12	5 and	10 are how many?
5 and	8	are	13	5 and	9 are how many?
5 and	9	are	14	5 and	5 are how many?
5 and	10	are	15	5 and	6 are how many?

LESSON XIV.

1. Six pine-apples and 1 pine-apple, are how many?

    6 and 1 are how many? 1 and 6?

2. Six and 2 are how many? 2 and 6?

3. James picked 6 bunches of grapes, and Lillie 2. How many did both pick?

    6 and 2 are how many? 2 and 6?

4.   6 and 4 are how many? 4 and 6?

TABLE.

6 and	1 are	7	4 and 6 are how many?
6 and	2 are	8	5 and 6 are how many?
6 and	3 are	9	1 and 6 are how many?
6 and	4 are	10	3 and 6 are how many?
6 and	5 are	11	6 and 6 are how many?
6 and	6 are	12	6 and 9 are how many?
6 and	7 are	13	2 and 6 are how many?
6 and	8 are	14	10 and 6 are how many?
6 and	9 are	15	6 and 7 are how many?
6 and	10 are	16	6 and 8 are how many?

LESSON XV.

1. Seven fruit-baskets and 1 fruit-basket are how many?

7 and 1 are how many? 1 and 7?

2. A soldier rode 7 miles in one hour, and 6 miles the next; how many miles did he ride in two hours?

7 and 6 are how many? 6 and 7?

3. Edgar caught 7 butterflies, and Annie 3; how many did both catch?

7 and 3 are how many? 3 and 7?

4. A man paid 7 dollars for a chest of tea, and 8 dollars for a barrel of flour; how many dollars did he pay for both?

7 and 8 are how many? 8 and 7?

TABLE.

7 and 1 are 8	7 and 3 are how many?
7 and 2 are 9	7 and 1 are how many?
7 and 3 are 10	4 and 7 are how many?
7 and 4 are 11	7 and 6 are how many?
7 and 5 are 12	7 and 7 are how many?
7 and 6 are 13	10 and 7 are how many?
7 and 7 are 14	7 and 2 are how many?
7 and 8 are 15	9 and 7 are how many?
7 and 9 are 16	5 and 7 are how many?
7 and 10 are 17	8 and 7 are how many?

LESSON XVI.

1. If a cluster of grapes cost 4 cents, and a pine-apple 8 cents; how many cents did both cost?
8 and 4 are how many? 4 and 8?

2 There were 8 soldiers in one rank, and 6 in another; how many in both ranks?
8 and 6 are how many? 6 and 8?

3. Emma found 6 tulips in the bud, and 2 in blossom; how many in all?
6 and 2 are how many? 2 and 6?
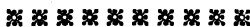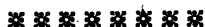
4. 8 and 10 are how many? 10 and 8?

TABLE.

8 and 1 are 9	5 and 8 are how many?	
8 and 2 are 10	3 and 8 are how many?	
8 and 3 are 11	1 and 8 are how many?	
8 and 4 are 12	8 and 6 are how many?	
8 and 5 are 13	8 and 10 are how many?	
8 and 6 are 14	8 and 8 are how many?	
8 and 7 are 15	7 and 8 are how many?	
8 and 8 are 16	4 and 8 are how many?	
8 and 9 are 17	9 and 8 are how many?	
8 and 10 are 18	2 and 8 are how many?	

LESSON XVII.

1. Anna paid 9 dollars for instruction on the piano, and 3 dollars for music; how much did she pay for both?

9 and 3 are how many?   3 and 9?

2. In a poultry-yard there were 9 hen turkeys, and 5 gobblers; how many of both?

9 and 5 are how many? 5 and 9?

3. Jane picked 8 roses and 8 buds; how many did she pick of both?

8 and 8 are how many?

4.   9 and 10 are how many?   10 and 9?

TABLE

9 and	1 are 10		9 and	9	are how many?
9 and	2 are 11		9 and	10	are how many?
9 and	3 are 12		1 and	9	are how many?
9 and	4 are 13		9 and	3	are how many?
9 and	5 are 14		2 and	9	are how many?
9 and	6 are 15		7 and	9	are how many?
9 and	7 are 16		9 and	8	are how many?
9 and	8 are 17		4 and	9	are how many?
9 and	9 are 18		9 and	5	are how many?
9 and	10 are 19		6 and	9	are how many?

LESSON XVIII.

1. A balloon sailed 10 miles the first hour, and 5 miles the next hour; how many miles did it sail in two hours?

    10 and 5 are how many? 5 and 10?

2. A pitcher cost 10 cents and a tumbler 6 cents; what was the cost of both?

    10 and 6 are how many? 6 and 10?

3. A car containing 10 persons took in 7 more; how many did it then contain?

    10 and 7 are how many? 7 and 10?

4. Robert paid 10 cents for painting his sled, and 8 cents for repairs; how many cents did he pay for both?

    10 and 8 are how many? 8 and 10?

TABLE.

10 and 1 are 11	6 and 10 are how many?
10 and 2 are 12	7 and 10 are how many?
10 and 3 are 13	10 and 4 are how many?
10 and 4 are 14	10 and 10 are how many?
10 and 5 are 15	8 and 10 are how many?
10 and 6 are 16	2 and 10 are how many?
10 and 7 are 17	10 and 3 are how many?
10 and 8 are 18	5 and 10 are how many?
10 and 9 are 19	9 and 10 are how many?
10 and 10 are 20	1 and 10 are how many?

LESSON XIX.

1. There is a cottage with 10 windows in the upper story in front, and 6 in the lower story; how many windows in front? *1 6*

2. There are 4 in the end; how many in the front and end? 10 and 6 and 4 are how many? *2 0*

3. There are 2 in the cupola, how many in all? 10 and 6 and 4 and 2 are how many? 4 and 6 and 10 and 2? *2 2*

4. Paid 12 dollars for a picture, and 3 dollars for a frame to put it in; how much did I pay for both? *1 5*

5. Henry paid 6 cents for an inkstand, 3 cents for some pens, and 7 cents for a writing-book; how many cents did he pay for all?
6 and 3 and 7 are how many? *1 6*

6. Willie paid 6 shillings for a pair of doves, and 9 shillings for fitting up a house for them in which to roost; how much did he pay for both? *1 5*

7. A boy traveled 5 miles one day, 8 miles the next day, and 10 miles the next; how many miles did he travel in three days?
5 and 8 and 10 are how many? *2 3*

8. Martha picked 4 yellow roses, 6 white ones, and 8 red ones; how many roses did she pick in all?
4 and 6 and 8 are how many? *1 8*

LESSON XX.

1. Carrie read 4 pages in her new book, one day, and 6 pages the next; how many pages did she read both days?

2. George's dog Dick caught 5 ground squirrels, 4 red ones, and 3 gray ones; how many did he catch in all?

3. Carrie's cat caught 7 mice one day, and 4 the next, and 2 the next; how many mice did she catch in three days?

4. Joseph had 7 rabbits, and his uncle gave him 4 more; how many had he then?

5. Henry gave his sister Allie 5 pears, and his sister Nellie 4, and kept 6 himself; how many had he in all?

6. Clinton paid 3 cents for an orange, 8 cents for a pencil, and 5 cents for some paper; how many cents did he pay for all?

LESSON XXI.

The following are all the combinations that can be made, with the nine figures, except with the unit. 1. The pupil should be required to commit these *thoroughly* to memory, which will very much facilitate the adding of long columns, and of large amounts with ease and correctness.

2 and 2 are 4	3 and 6 are 9
5 and 7 are 12	7 and 9 are 16
4 and 4 are 8	2 and 6 are 8
5 and 6 are 11	8 and 9 are 17
8 and 8 are 16	2 and 7 are 9
6 and 7 are 13	3 and 3 are 6
6 and 6 are 12	6 and 9 are 15
2 and 9 are 11	3 and 8 are 11
3 and 5 are 8	4 and 5 are 9
9 and 9 are 18	4 and 8 are 12
2 and 3 are 5	4 and 7 are 11
2 and 6 are 8	7 and 8 are 15
7 and 7 are 14	5 and 9 are 14
4 and 9 are 13	3 and 7 are 10
5 and 5 are 10	2 and 6 are 8
6 and 8 are 14	2 and 4 are 6
3 and 4 are 7	3 and 9 are 12
5 and 8 are 13	4 and 6 are 10

Let the above combinations all be learned in the reversed order; thus, 6 and 8 are 14; 8 and 6 are 14, &c. The whole comprising 24 triplets, and 72 combinations.

Direct the attention of the pupil to the fact, that *the same figures when added, always give the same unit figure in the result.* That is 3 and 5 are 8; 3 and 25 are 28; 3 and 45 are 48, &c. If in adding any of the higher numbers he hesitates, he should be referred to the *primary sum* of those numbers. Thus, if the pupil hesitates on 68 and 5, he should be asked: "What do 8 and 5 always give?" (*Ans.* 3.) Then 68 and 5 must give the next *three* above 68, that is 73.

In adding, learn to pronounce the partial results without naming the *figures* separately. Thus, instead of saying 5 and 4 are 9, and 3 are 12, and 6 are 18, &c., simply utter the results, 9, 12, 18, &c. Observe the same practice in subtraction and multiplication.

Place an example upon the blackboard, as the following. Call upon some pupil to commence, who will begin with the right hand column and say,

```
267189
485736
918753
592847
703928
564789
───────
3533142
```

"9, 17, 24, 27, 33, 42, write the 2 under the column added, and carry the 4 to the next column." The next pupil will without any delay take up the process, beginning with the 4 to carry, and say, "4, 12, 14, 18, 23, 26, 34, write the 4 under the column added and carry 3." So in quick succession let each column be added upwards, then downwards, then from right to left, and from left to right, until the whole class have been exercised upon it. Very young children may easily be taught, in this way, to add long columns of figures with astonishing rapidity and correctness.

LESSON XXII.

In the following table the single figures are combined in *pairs*, which will also help the learner to add with facility.

1 and 2 are 3	4 and 4 are 8	3 and 9 are 12
1 and 3 are 4	1 and 8 are 9	5 and 7 are 12
2 and 2 are 4	2 and 7 are 9	6 and 6 are 12
1 and 4 are 5	3 and 6 are 9	4 and 9 are 13
2 and 3 are 5	4 and 5 are 9	5 and 8 are 13
1 and 5 are 6	1 and 9 are 10	5 and 9 are 14
2 and 4 are 6	2 and 8 are 10	6 and 8 are 14
3 and 3 are 6	3 and 7 are 10	7 and 7 are 14
1 and 6 are 7	4 and 6 are 10	6 and 9 are 15
2 and 5 are 7	5 and 5 are 10	7 and 8 are 15
3 and 4 are 7	2 and 9 are 11	7 and 9 are 16
1 and 7 are 8	3 and 8 are 11	8 and 8 are 16
2 and 6 are 8	4 and 7 are 11	8 and 9 are 17
3 and 5 are 8	5 and 6 are 11	9 and 9 are 18

1. Name all the coupling figures that make 4.
2. Name all the coupling figures that make 5.
3. Name all the coupling figures that make 6.
4. Name all the coupling figures that make 7.
5. Name all the coupling figures that make 8.
6 Name all the coupling figures that make 9.
7. Name all the coupling figures that make 10.
8. Name all the coupling figures that make 11.
9. Name all the coupling figures that make 12.
10. Name all the coupling figures that make 13.
11. Name all the coupling figures that make 14.

LESSON XXIII.

1. What does SUBTRACTION teach?
ANS. *Subtraction teaches the process of finding the difference between two numbers.*

2. What is the larger number called?
ANS. *The Minuend.*

3. What is the smaller number called?
ANS. *The Subtrahend.*

4. What is the result or answer called?
ANS. *The Difference, or Remainder.*

5. Of 3 pinks growing on one stem, only 1 was unbroken; how many were broken? 1 from 3 leaves how many?

6. One of these 4 chickens has a worm; how many are running after it?
1 from 4 leaves how many?

TABLE.

1 from	1 leaves 0	1 from	2 leaves how many?
1 from	2 leaves 1	1 from	3 leaves how many?
1 from	3 leaves 2	1 from	5 leaves how many?
1 from	4 leaves 3	1 from	4 leaves how many?
1 from	5 leaves 4	1 from	1 leaves how many?
1 from	6 leaves 5	1 from	9 leaves how many?
1 from	7 leaves 6	1 from	10 leaves how many?
1 from	8 leaves 7	1 from	6 leaves how many?
1 from	9 leaves 8	1 from	8 leaves how many?
1 from	10 leaves 9	1 from	7 leaves how many?

LESSON XXIV.

1. A hunter caught 6 squirrels; he gave 2 away, and kept the remainder. How many squirrels did he keep? 2 from 6 leaves how many?

Six are how many more than four?

2. Four eagles were confined in a cage, but 2 escaped; how many remained?

2 from 4 leaves how many?

3. From a stage containing 5 persons, 2 left; how many remained in the stage?

2 from 5 leaves how many?

TABLE.

2 from 2 leaves 0	2 from 4 leaves how many?
2 from 3 leaves 1	2 from 3 leaves how many?
2 from 4 leaves 2	2 from 6 leaves how many?
2 from 5 leaves 3	2 from 2 leaves how many?
2 from 6 leaves 4	2 from 7 leaves how many?
2 from 7 leaves 5	2 from 9 leaves how many?
2 from 8 leaves 6	2 from 5 leaves how many?
2 from 9 leaves 7	2 from 8 leaves how many?
2 from 10 leaves 8	2 from 11 leaves how many?
2 from 11 leaves 9	2 from 10 leaves how many?

LESSON XXV.

1. There were 7 trees standing in a park, 3 were maple trees, and the others were elm; how many were elm? 3 from 7 leaves how many?

7 less 3 are how many?

Three and four are how many?

2. A man fired his gun at a group of 5 snipe, and killed 3; how many were unharmed?

5 less 3 are how many?

3. A farmer having 8 pigs, sold 2 of them: how many remained?

2 from 8 leaves how many?

Five and three are how many?

TABLE.

3 from 3 leaves 0	3 from 8 leaves how many?
3 from 4 leaves 1	3 from 4 leaves how many?
3 from 5 leaves 2	3 from 9 leaves how many?
3 from 6 leaves 3	3 from 5 leaves how many?
3 from 7 leaves 4	3 from 10 leaves how many?
3 from 8 leaves 5	3 from 7 leaves how many?
3 from 9 leaves 6	3 from 6 leaves how many?
3 from 10 leaves 7	3 from 12 leaves how many?
3 from 11 leaves 8	3 from 3 leaves how many?
3 from 12 leaves 9	3 from 11 leaves how many?

LESSON XXVI.

1. An old hen had 5 chickens, and the cat caught 2 of them; how many had she left?

2 from 5 leaves how many?

2. Mary placed 6 cups upon the table, and then took away 4 of them; how many remained?

4 from 6 leaves how many?

Four and two are how many?

3.   4 from 10 leaves how many?

4.   4 from 12 leaves how many?

TABLE.

4 from 4 leaves 0	4 from 6 leaves how many?	
4 from 5 leaves 1	4 from 10 leaves how many?	
4 from 6 leaves 2	4 from 8 leaves how many?	
4 from 7 leaves 3	4 from 12 leaves how many?	
4 from 8 leaves 4	4 from 9 leaves how many?	
4 from 9 leaves 5	4 from 4 leaves how many?	
4 from 10 leaves 6	4 from 5 leaves how many?	
4 from 11 leaves 7	4 from 13 leaves how many?	
4 from 12 leaves 8	4 from 7 leaves how many?	
4 from 13 leaves 9	4 from 11 leaves how many?	

LESSON XXVII.

1. Emma had 7 dolls, and gave 2 of them away; how many had she left?

5 from 7 leaves how many?

2. A person having 9 dollars gave 5 dollars for a trunk; how many dollars had he left?

9 less 5 are how many?

3. A shopman had 8 small drums, he sold 5 of them; how many had he left?

5 from 8 leaves how many?

TABLE.

5 from 5 leaves 0	5 from 10 leaves how many?
5 from 6 leaves 1	5 from 12 leaves how many?
5 from 7 leaves 2	5 from 9 leaves how many?
5 from 8 leaves 3	5 from 6 leaves how many?
5 from 9 leaves 4	5 from 7 leaves how many?
5 from 10 leaves 5	5 from 14 leaves how many?
5 from 11 leaves 6	5 from 8 leaves how many?
5 from 12 leaves 7	5 from 11 leaves how many?
5 from 13 leaves 8	5 from 5 leaves how many?
5 from 14 leaves 9	5 from 13 leaves how many?

LESSON XXVIII.

1. Seven guns less one gun are how many guns?
1 from 7 leaves how many? 6

2. Homer having 10 cents, gave 6 cents for a bunch of grapes; how many cents had he left? 4
6 from 10 leaves how many?

3. There were 10 little snow-birds on a limb; 6 sitting on one branch, how many on the other?
10 less 6 are how many? 4
10 are how many more than 6? 4

TABLE.

6 from 6 leaves 0	6 from 7 leaves how many?
6 from 7 leaves 1	6 from 12 leaves how many?
6 from 8 leaves 2	6 from 6 leaves how many?
6 from 9 leaves 3	6 from 14 leaves how many?
6 from 10 leaves 4	6 from 9 leaves how many?
6 from 11 leaves 5	6 from 11 leaves how many?
6 from 12 leaves 6	6 from 8 leaves how many?
6 from 13 leaves 7	6 from 15 leaves how many?
6 from 14 leaves 8	6 from 10 leaves now many?
6 from 15 leaves 9	6 from 13 leaves how many?

LESSON XXIX.

1. Grace picked 10 flowers; 7 were pinks and the others were tulips; how many tulips did she pick?   10 less 7 are how many?

2. Bought 8 locks, and but 7 were good; how many were bad?   /
          8 less 7 are how many?

3.   5 from 12 leaves how many?

4.   11 less 7 are how many?

TABLE.

7 from 7 leaves 0	7 from 14 leaves how many?
7 from 8 leaves 1	7 from 10 leaves how many?
7 from 9 leaves 2	7 from 15 leaves how many?
7 from 10 leaves 3	7 from 11 leaves how many?
7 from 11 leaves 4	7 from 7 leaves how many?
7 from 12 leaves 5	7 from 9 leaves how many?
7 from 13 leaves 6	7 from 16 leaves how many?
7 from 14 leaves 7	7 from 13 leaves how many?
7 from 15 leaves 8	7 from 8 leaves how many?
7 from 16 leaves 9	7 from 12 leaves how many?

LESSON XXX.

1. Oscar spelled 8 words, and Hattie 14; how many more words did Hattie spell than Oscar? *6*

8 from 14 leaves how many?
8 and how many make 14?

2. A farmer having 15 sheep sold 8 of them; how many had he left? *7*

15 less 8 are how many?

3. A saddle cost 16 dollars, and a bridle 8 dollars; how much more did the saddle cost than the bridle? *8*

8 from 16 leaves how many?

4. Austin caught 17 bass, and sold 8 of them; how many had he left? *9*

8 from 17 leaves how many?

TABLE.

8 from 8 leaves 0	8 from 15 leaves how many?
8 from 9 leaves 1	8 from 12 leaves how many?
8 from 10 leaves 2	8 from 10 leaves how many?
8 from 11 leaves 3	8 from 14 leaves how many?
8 from 12 leaves 4	8 from 17 leaves how many?
8 from 13 leaves 5	8 from 11 leaves how many?
8 from 14 leaves 6	8 from 8 leaves how many?
8 from 15 leaves 7	8 from 9 leaves how many?
8 from 16 leaves 8	8 from 16 leaves how many?
8 from 17 leaves 9	8 from 13 leaves how many?

LESSON XXXI.

1. Frank rode down the hill 12 times, and James 9 times; how many more times did Frank ride down the hill than James? *9*

12 less 9 are how many?

9 and how many make 12?

2. Fourteen less nine are how many? *5*

9 and how many make 14?

3. Thirteen less nine, are how many? *4*

9 and how many make 13?

4. Seventeen less nine are how many? *8*

TABLE.

9 from 9 leaves 0	9 from 16 leaves how many?
9 from 10 leaves 1	9 from 12 leaves how many?
9 from 11 leaves 2	9 from 10 leaves how many?
9 from 12 leaves 3	9 from 17 leaves how many?
9 from 13 leaves 4	9 from 18 leaves how many?
9 from 14 leaves 5	9 from 9 leaves how many?
9 from 15 leaves 6	9 from 15 leaves how many?
9 from 16 leaves 7	9 from 14 leaves how many?
9 from 17 leaves 8	9 from 13 leaves how many?
9 from 18 leaves 9	9 from 11 leaves how many?

LESSON XXXII.

1. The conductor of a railroad train collected 17 dollars for fares, in one car, and 10 in another; how many dollars more did he collect in one car than in the other?

17 less 10 are how many?

2. Bought a watch for 10 dollars, and sold it for 15 dollars; how much did I gain?

10 from 15 leaves how many?

3.   16 less ten are how many?

4.   17 pens, less 10 pens are how many?
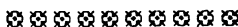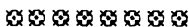
5.   10 from 18 leaves how many?

TABLE.

10 from 10 leaves 0	10 from 10 leaves how many?
10 from 11 leaves 1	10 from 11 leaves how many?
10 from 12 leaves 2	10 from 12 leaves how many?
10 from 13 leaves 3	10 from 13 leaves how many?
10 from 14 leaves 4	10 from 14 leaves how many?
10 from 15 leaves 5	10 from 15 leaves how many?
10 from 16 leaves 6	10 from 16 leaves how many?
10 from 17 leaves 7	10 from 17 leaves how many?
10 from 18 leaves 8	10 from 18 leaves how many?
10 from 19 leaves 9	10 from 19 leaves how many?

LESSON XXXIII.

1. Rollo and Ella have some tame birds. There are 2 on the floor, and 4 on the chair; how many in all? How many more on the chair than on the floor?

2. Three of the birds are singing birds, the others are not; how many do not sing?

3. Ella had 11 tame birds, and she gave them all away but 6; how many did she give away?

LESSON XXXIV.

1. What does MULTIPLICATION teach?

ANS. *Multiplication teaches the process of taking one number, as many times as there units in another.*

2. What is the number multiplied, called?

ANS. *The Multiplicand.*

3. The number you multiply by?

ANS. *The Multiplier.*

4. The result, or answer?

ANS. *The Product.*

5. At one cent each what will 4 apples cost?

4 times one are how many?

6. At 1 dollar a pound, what will 5 pounds of tea cost?

TABLE.

once	2 is	2	4 times 1 are how many?
once	3 is	3	3 times 1 are how many?
once	4 is	4	7 times 1 are how many?
once	5 is	5	8 times 1 are how many?
once	6 is	6	2 times 1 are how many?
once	7 is	7	10 times 1 are how many?
once	8 is	8	5 times 1 are how many?
once	9 is	9	9 times 1 are how many?
once	10 is	10	6 times 1 are how many?

LESSON XXXV.

1. A wheelbarrow has 2 handles; how many handles have 2 wheelbarrows?

2 times 2 are how many?

2. If an elephant have 2 tusks, how many tusks have 3 elephants?

3 times 2 are how many?   2 times 3?

3. If there are 7 men in a boat, how many men in 2 boats?

2 times 7 are how many?   7 times 2?

TABLE.

2 times	1 are	2	2 times	4 are how many?	
2 times	2 are	4	2 times	3 are how many?	
2 times	3 are	6	2 times	1 are how many?	
2 times	4 are	8	2 times	6 are how many?	
2 times	5 are	10	2 times	2 are how many?	
2 times	6 are	12	2 times	5 are how many?	
2 times	7 are	14	2 times	7 are how many?	
2 times	8 are	16	2 times	10 are how many?	
2 times	9 are	18	2 times	9 are how many?	
2 times	10 are	20	2 times	8 are how many?	

LESSON XXXVI.

1. A lion has 4 legs; how many legs have 3 lions?   3 times 4 are how many?

2.   3 times 3 are how many?

3. How many eggs in 3 nests, if there are 7 eggs in each nest?

     3 times 7 are how many?   7 times 3?

TABLE.

3 times 1 are 3	3 times 8 are how many?
3 times 2 are 6	3 times 4 are how many?
3 times 3 are 9	3 times 2 are how many?
3 times 4 are 12	3 times 3 are how many?
3 times 5 are 15	3 times 6 are how many?
3 times 6 are 18	3 times 1 are how many?
3 times 7 are 21	3 times 5 are how many?
3 times 8 are 24	3 times 10 are how many?
3 times 9 are 27	3 times 7 are how many?
3 times 10 are 30	3 times 9 are how many?

LESSON XXXVII.

1. If 2 fowls make a pair, how many fowls make 4 pairs?

4 times 2 are how many?

2. If 4 girls have 3 pinks apiece, how many pinks have all?

4 times 3 are how many? / 2

3. A leopard has 4 feet; how many feet have 4 leopards?   4 times 4 are how many? /

TABLE.

4 times	1 are	4	4 times	2 are how many?
4 times	2 are	8	4 times	4 are how many?
4 times	3 are	12	4 times	10 are how many?
4 times	4 are	16	4 times	5 are how many?
4 times	5 are	20	4 times	3 are how many?
4 times	6 are	24	4 times	1 are how many?
4 times	7 are	28	4 times	9 are how many?
4 times	8 are	32	4 times	7 are how many?
4 times	9 are	36	4 times	8 are how many?
4 times	10 are	40	4 times	6 are how many?

LESSON XXXVIII.

1.   5 times 2 are how many? /ɔ

2.   5 times 3 are how many? / 5

3. At 5 cents apiece, how many cents must be paid for 5 tumblers?

          5 times 5 are how many? 2 5

4.   5 times 6 are how many?

TABLE.

5 times 1 are 5	5 times 3 are how many?		
5 times 2 are 10	5 times 4 are how many?		
5 times 3 are 15	5 times 2 are how many?		
5 times 4 are 20	5 times 1 are how many?		
5 times 5 are 25	5 times 10 are how many?		
5 times 6 are 30	5 times 8 are how many?		
5 times 7 are 35	5 times 6 are how many?		
5 times 8 are 40	5 times 9 are how many?		
5 times 9 are 45	5 times 7 are how many?		
5 times 10 are 50	5 times 5 are how many?		

LESSON XXXIX.

1. A butterfly has 2 wings; how many wings have 6 butterflies?

6 times 2 are how many?

2. At 3 cents apiece, what will 6 oranges cost?

6 times 3 are how many?

. 3. If oné house rent for 5 dollars a week; for how much will 6 houses of the same kind rent?

6 times 5 are how many?

TABLE.

6 times 1 are 6	6 times 6 are how many?
6 times 2 are 12	6 times 8 are how many?
6 times 3 are 18	6 times 1 are how many?
6 times 4 are 24	6 times 3 are how many?
6 times 5 are 30	6 times 10 are how many?
6 times 6 are 36	6 times 2 are how many?
6 times 7 are 42	6 times 9 are how many?
6 times 8 are 48	6 times 4 are how many?
6 times 9 are 54	6 times 7 are how many?
6 times 10 are 60	6 times 5 are how many?

LESSON XL.

1.   How many are 7 times 2?   2 times 7?

2. If there are 4 cherries in one bunch; how many cherries in 7 bunches?

7 times 4 are how many?   4 times 7?

3. If one sled cost 6 shillings, how many shillings will 7 sleds cost?

7 times 6 are how many?   6 times 7?

4. If a steamboat run 10 miles an hour, how far will it run in 7 hours?
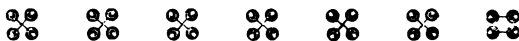
5.   7 times 4 are how many?

TABLE.

7 times 1 are 7	7 times 8 are how many?
7 times 2 are 14	7 times 10 are how many?
7 times 3 are 21	7 times 3 are how many?
7 times 4 are 28	7 times 2 are how many?
7 times 5 are 35	7 times 1 are how many?
7 times 6 are 42	7 times 4 are how many?
7 times 7 are 49	7 times 9 are how many?
7 times 8 are 56	7 times 7 are how many?
7 times 9 are 63	7 times 5 are how many?
7 times 10·are 70	7 times 6 are how many?

LESSON XLI.

1. A chicken has 2 wings; how many wings have 8 chickens?

8 times 2 are how many?   2 times 8?

2. How many dollars will 8 globes cost, at 5 dollars apiece?

8 times 5 are how many?   5 times 8?

3. At 7 dollars a barrel, what will be the cost of 8 barrels of flour?

8 times 7 are how many?   7 times 8?

4. If a horse travel 8 miles an hour, how far will he travel in 8 hours?

8 times 8 are how many?

TABLE.

8 times	1 are	8	8 times	5 are how many?
8 times	2 are	16	8 times	7 are how many?
8 times	3 are	24	8 times	6 are how many?
8 times	4 are	32	8 times	1 are how many?
8 times	5 are	40	8 times	8 are how many?
8 times	6 are	48	8 times	4 are how many?
8 times	7 are	56	8 times	10 are how many?
8 times	8 are	64	8 times	2 are how many?
8 times	9 are	72	8 times	9 are how many?
8 times	10 are	80	8 times	3 are how many?

LESSON XLII.

1. An owl has 2 eyes; how many eyes have 9 owls?

9 times 2 are how many?   2 times 9?

2. At 5 cents apiece, what will 9 combs cost?

9 times 5 are how many?

3. A fly has 6 legs; how many legs have 9 flies?

9 times 6 are how many?   6 times 9?

4. If 9 girls have 3 roses each, how many roses have they all?

9 times 3 are how many?   3 times 9?

TABLE.

9 times 1 are 9	9 times 3 are how many?
9 times 2 are 18	9 times 4 are how many?
9 times 3 are 27	9 times 1 are how many?
9 times 4 are 36	9 times 8 are how many?
9 times 5 are 45	9 times 7 are how many?
9 times 6 are 54	9 times 6 are how many?
9 times 7 are 63	9 times 10 are how many?
9 times 8 are 72	9 times 2 are how many?
9 times 9 are 81	9 times 5 are how many?
9 times 10 are 90	9 times 9 are how many?

LESSON XLIII.

1. If a ship sails 6 miles an hour, how many miles will she sail in 10 hours?

2. At 10 dollars apiece, how many dollars must be paid for 10 stoves?

10 times 10 are how many?

3. If there are 5 chickens in one brood, how many would there be in 10 such broods?

10 times 5 are how many?

4. If one wagon has 4 wheels, how many have 10 wagons?

5. At 5 cents a yard, what will be the cost of 10 yards of shirting?

10 times 5 are how many?

TABLE.

10 times 1 are 10	10 times 7 are how many?
10 times 2 are 20	10 times 6 are how many?
10 times 3 are 30	10 times 2 are how many?
10 times 4 are 40	10 times 3 are how many?
10 times 5 are 50	10 times 1 are how many?
10 times 6 are 60	10 times 8 are how many?
10 times 7 are 70	10 times 9 are how many?
10 times 8 are 80	10 times 10 are how many?
10 times 9 are 90	10 times 4 are how many?
10 times 10 are 100	10 times 5 are how many?

LESSON XLIV.

MULTIPLICATION TABLE.

	2 times are	3 times are	4 times are	5 times are	6 times are	7 times are	8 times are	9 times are	10 times are	11 times are	12 times are
1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

1. At 7 miles an hour, how far will a stage drive in 8 hours?

2. What will be the cost of 8 pounds of honey at 12 cents a pound?

8 times 12 are how many?   12 times 8?

3. What will be the cost of 6 vases at 12 shillings apiece?

6 times 12 are how many?   12 times 6?

4. If 1 banner cost 12 dollars, what will be the cost of 7?   Of 8?   Of 9? Of 10?

9 times 12 are how many?   12 times 9?

LESSON XLV.

1. Here are two little May Queens. Flora is 12 years old, and Lillie 9 years; what is the difference in their ages?

2. Both are dressed alike; Flora's dress contains 6 yards of silk, and Lillie's 5 yards; how many yards do both contain?

3. What did the silk cost at 8 shillings a yard?

4. It took 9 yards of ribbon to trim both dresses; how much did it cost at 10 cents a yard?

5. There were in each crown, or head-dress, 7 roses, 5 buds, and 10 other flowers; how many roses, buds, and other flowers in each?

6. If 9 grass pinks bloomed on a single root, how many pinks would bloom on 6 similar roots?

6 times 9 are how many? 9 times 6?

LESSON XLVI.

1. What does DIVISION teach?

ANS. *Division teaches the process of finding how many times one number or quantity is contained in another.*

2. What is the number to be divided called?

ANS. *The Dividend.*

3. The number to divide by? ANS. *The Divisor.*

4. The result or answer? ANS. *The Quotient.*

5. Frank had 5 pears and he gave 1 apiece to his companions; to how many did he give them?

6. How long will it take a carpenter to make 3 wheelbarrows, if he make 1 a day?

TABLE.

1 in 2, 2 times	2 are how many times 1?
1 in 3, 3 times	3 are how many times 1?
1 in 4, 4 times	4 are how many times 1?
1 in 5, 5 times	5 are how many times 1?
1 in 6, 6 times	6 are how many times 1?
1 in 7, 7 times	7 are how many times 1?
1 in 8, 8 times	8 are how many times 1?
1 in 9, 9 times	9 are how many times 1?
1 in 10, 10 times	10 are how many times 1?

LESSON XLVII.

1. Three men owned 6 dogs; how many did each man own?

6 are how many times 2? 2 in 6?

2. It takes 2 skates to make a pair; how many pairs will 8 skates make?

8 are how many times 2? 2 in 8?

3. How many pairs will 10 gloves make?

10 are how many times 2? 2 in 10?

TABLE.

2 in 2, 1 time	2 are how many times 2?
2 in 4, 2 times	4 are how many times 2?
2 in 6, 3 times	6 are how many times 2?
2 in 8, 4 times	8 are how many times 2?
2 in 10, 5 times	10 are how many times 2?
2 in 12, 6 times	12 are how many times 2?
2 in 14, 7 times	14 are how many times 2?
2 in 16, 8 times	16 are how many times 2?
2 in 18, 9 times	18 are how many times 2?
2 in 20, 10 times	20 are how many times 2?

LESSON XLVIII.

1.   6 are how many times 3?   3 in 6?

2. A chair-maker made 9 chairs in 3 days; how many chairs did he make each day?

3. Jennie picked 12 pinks, and 3 pinks on a stem; how many stems did she pick?

4.   15 are how many times 3?   3 in 15?

TABLE.

3 in 3, 1 time	3 are how many times 3?
3 in 6, 2 times	6 are how many times 3?
3 in 9, 3 times	9 are how many times 3?
3 in 12, 4 times	12 are how many times 3?
3 in 15, 5 times	15 are how many times 3?
3 in 18, 6 times	18 are how many times 3?
3 in 21, 7 times	21 are how many times 3?
3 in 24, 8 times	24 are how many times 3?
3 in 27, 9 times	27 are how many times 3?
3 in 30, 10 times	30 are how many times 3?

LESSON XLIX.

1. Willie gave 8 bunches of grapes to his sisters, giving them 4 bunches each; how many sisters had he?

   8 are how many times 4?   4 in 8?

2. If a wagon-maker have 12 wheels, how many wagons can he build, each having 4 wheels?

   12 are how many times 4?   4 in 12?

3. Albert having 16 cherries tied them into bunches of 4 cherries each; how many bunches had he?

TABLE.

4 in 4, 1 time	4 are how many times 4?
4 in 8, 2 times	8 are how many times 4?
4 in 12, 3 times	12 are how many times 4?
4 in 16, 4 times	16 are how many times 4?
4 in 20, 5 times	20 are how many times 4?
4 in 24, 6 times	24 are how many times 4?
4 in 28, 7 times	28 are how many times 4?
4 in 32, 8 times	32 are how many times 4?
4 in 36, 9 times	36 are how many times 4?
4 in 40, 10 times	40 are how many times 4?

LESSON L.

1. If Edgar read 5 pages a day, in how many days will he read 25 pages?

25 are how many times 5? 5 in 25?

2. If a pair of boots cost 5 dollars, how many pairs can be bought for 20 dollars?

20 are how many times 5? 5 in 20?

3. At 5 cents each, how many lemons can be bought for 30 cents?

30 are how many times 5? 5 in 30?

4. If you put 10 pigs into 5 pens, how many pigs must you put into each pen?

35 are how many times 5? 5 in 35?

TABLE.

5 in 5, 1 time	5 are how many times 5?
5 in 10, 2 times	10 are how many times 5?
5 in 15, 3 times	15 are how many times 5?
5 in 20, 4 times	20 are how many times 5?
5 in 25, 5 times	25 are how many times 5?
5 in 30, 6 times	30 are how many times 5?
5 in 35, 7 times	35 are how many times 5?
5 in 40, 8 times	40 are how many times 5?
5 in 45, 9 times	45 are how many times 5?
5 in 50, 10 times	50 are how many times 5?

LESSON LI.

1. At 6 shillings each, how many baskets of flowers can be bought for 12 shillings? 12 are how many times 6? 2 times 6 are how many?

2. Mary paid 24 cents for 8 yards of ribbon; how much did she pay a yard? 24 are how many times 8? 3 times 8 are how many?

3. At 6 shillings each, how many knives would 30 shillings buy? 30 are how many times 6? 6 in 30?
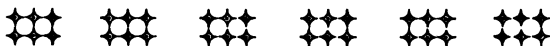
4. 36 are how many times 6? 6 in 30?

TABLE.

6 in 6, 1 time		6 are how many times 6?
6 in 12, 2 times		12 are how many times 6?
6 in 18, 3 times		18 are how many times 6?
6 in 24, 4 times		24 are how many times 6?
6 in 30, 5 times		30 are how many times 6?
6 in 36, 6 times		36 are how many times 6?
6 in 42, 7 times		42 are how many times 6?
6 in 48, 8 times		48 are how many times 6?
6 in 54, 9 times		54 are how many times 6?
6 in 60, 10 times		60 are how many times 6?

LESSON LII.

1. If a hen's nest have 7 eggs in it, how many such nests will contain 21 eggs?

21 are how many times 7?   7 in 21?

2. Gave 28 oranges to 7 little girls; how many did each receive?

7 is contained in 28 how many times?

3. If 7 men are required to man one boat, how many boats will 35 men serve?

35 are how many times 7?   7 in 35?

4. Paid 42 cents for 7 quarts of berries? how much was that a quart?

42 are how many times 7?   7 in 42
6 times 7 are how many?

TABLE.

7 in 7, 1 time	7 are how many times 7?
7 in 14, 2 times	14 are how many times 7?
7 in 21, 3 times	21 are how many times 7?
7 in 28, 4 times	28 are how many times 7?
7 in 35, 5 times	35 are how many times 7?
7 in 42, 6 times	42 are how many times 7?
7 in 49, 7 times	49 are how many times 7?
7 in 56, 8 times	56 are how many times 7?
7 in 63, 9 times	63 are how many times 7?
7 in 70, 10 times	70 are how many times 7?

LESSON LIII.

1. How many kites at 8 cents each, can George buy for 24 cents?
8 is contained in 24 how many times?
3 times 8 are how many?

2. At 8 dollars apiece, how many center tables can be bought for 32 dollars?
32 are how many times 8? 8 in 32?

3. A sportsman shot 8 times and killed 40 woodcock; how many did he kill at each shot?
40 are how many times 8? 8 in 40?
8 times 5 are how many?

4. Paid 16 cents for 8 apples; how much was paid apiece?

TABLE.

8 in 8, 1 time	8 are how many times 8?
8 in 16, 2 times	16 are how many times 8?
8 in 24, 3 times	24 are how many times 8?
8 in 32, 4 times ·	32 are how many times 8?
8 in 40, 5 times	40 are how many times 8?
8 in 48, 6 times	48 are how many times 8?
8 in 56, 7 times	56 are how many times 8?
8 in 64, 8 times	64 are how many times 8?
8 in 72, 9 times	72 are how many times 8?
8 in 80, 10 times	80 are how many times 8?

LESSON LIV.

1. At 9 dollars each how many clocks can be bought for 36 dollars?
36 are how many times 9 ?   9 in 36 ?
4 times 9 are how many?

2. How many tops, at 9 cents each, will 45 cents buy?
9 is contained in 45, how many times?

3. A horseman rode 72 miles in 9 hours; how many miles an hour did he ride?
72 are how many times 9 ?   9 in 72 ?
8 times 9 are how many?

4. Paid 27 cents for 9 pounds of rice: what was the cost of a pound?
27 are how many times 9 ?

TABLE.

9 in 9, 1 time	9 are how many times 9 ?
9 in 18, 2 times	18 are how many times 9 ?
9 in 27, 3 times	27 are how many times 9 ?
9 in 36, 4 times	36 are how many times 9 ?
9 in 45, 5 times	45 are how many times 9 ?
9 in 54, 6 times	54 are how many times 9 ?
9 in 63, 7 times	63 are how many times 9 ?
9 in 72, 8 times	72 are how many times 9 ?
9 in 81, 9 times	81 are how many times 9 ?
9 in 90, 10 times	90 are how many times 9 ?

LESSON LV.

1. Ellen gave 10 cents for a box, in which she and her sister Jennie might keep their needles, thimbles, and thread; how many such boxes could be bought for 50 cents?

50 are how many times 10? 10 in 50?

2. Jennie gave 10 cents for a thimble; how many could she buy for 40 cents?

3. At 10 dollars a barrel, how many barrels of beef could be bought for 60 dollars? How many for 70 dollars?

4. How long will it take Carlos to earn 80 cents, if he earn 10 cents a day?

80 are how many times 10?

TABLE.

10 in 20, 2 times	20 are how many times 10?
10 in 30, 3 times	30 are how many times 10?
10 in 40, 4 times	40 are how many times 10?
10 in 50, 5 times	50 are how many times 10?
10 in 60, 6 times	60 are how many times 10?
10 in 70, 7 times	70 are how many times 10?
10 in 80, 8 times	80 are how many times 10?
10 in 90, 9 times	90 are how many times 10?
10 in 100, 10 times	100 are how many times 10?

LESSON LVI.

DIVISION TABLE.

Say	2	3	4	5	6	7	8	9	10	11	12
times	in	in	in	in	in	in	in	in	in	in	in
1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

1. At 9 shillings each, how many singing birds can be bought for 63 shillings?

63 are how many times 9?

2. At 12 shillings each, how much would 6 birds cost?

6 times 12 are how many?

3. How long will it take a steamboat to run 88 miles, if she run 11 miles an hour?

88 are how many times 11? 11 in 88?

4. If one apple-tree produce 8 bushels of apples, how many bushels will 9 such trees produce?

9 times 8 are how many? 8 times 9?

LESSON LVII.

1. Martha had 4 little kittens; 2 were white and the others were gray; how many were gray? She gave away 3; how many had she left?

2. If she pay 5 cents a week for milk to feed them, how many weeks will 25 cents worth of milk last them?

25 are how many times 5 ? 5 in 25 ?

3. At 4 shillings apiece, how many geese may be bought for 36 shillings? 36 are how many times 4 ?

4. At 4 dollars a pair, how many dollars will 6 pairs of skates cost? 6 times 4 are how many? 4 times 6 ?

LESSON LVIII.

1. Allie has cut an orange into two equal parts, and is giving her brother Eddie one part. What do you call one such part?

Ans. *One half* of an orange.

2. How many *halves* of an orange make a whole orange? Ans. *Two halves.*

3. If she had cut an apple into two equal parts, what would one of the parts be?

Ans. *One half of an apple.*

4. How many *halves* of an apple, make a whole apple?

Ans. *Two halves.*

5. How many halves of *any thing* make the whole of *that thing*? Ans. *Two.*

6. If Allie gave *one half* the orange to Eddie, what part had she left? Ans. *One half.*

7. If there are 2 halves in one orange, how many halves are there in 2 oranges? In 3 oranges? In 4 oranges?

8. How many halves of a dollar in 1 dollar? In 2 dollars? In 3 dollars?

9. How many halves of a bushel in 1 bushel?

LESSON LIX.

1. James has just cut an apple into *three* equal parts, and passed one part to each of his two sisters. What do you call *one* such part?

ANS. *One third* of an apple.

2. What are *two* such parts called?
ANS. *Two thirds* of an apple.

3. How many *thirds* make a whole apple?
4. How many *thirds* make a whole pear?
5. If James gave *two thirds* of his apple to his sisters, what part had he left?
6. How many thirds of *any thing* make the whole of *that thing?*
7. If there are *three* thirds in one apple, how many *thirds* in 2 apples? In 3 apples?
8. If you give 3 boys one third of an orange apiece, how many *thirds* will you give to all? How many *whole* oranges?
9. Six times one third, are how many *thirds?* How many *whole* things?

LESSON LX.

1. Willie has cut up 3 melons; the one at his right hand into 2 equal parts; what is one of the parts called? How many *halves* make a whole melon?

2. The one at his left hand he has cut into 3 equal parts; what is *one* of the parts called? *Two* of the parts? How many *thirds* make a whole melon?

3. The one before him he has cut into 4 equal parts; what is *one* of the parts called?

Ans. *One fourth* of a melon.

4. What are 2 of the parts called? 3 of the parts?

5. How many *fourths* make a *whole* melon?

6. How many *fourths* make a whole orange?

7. If you have a whole melon and give away *one fourth* of it, how many *fourths* will you have left? If you give away two fourths? Three fourths? four fourths?

8. Which is most, *one half* or *one third?* One third, or one fourth?

9. If you should divide an orange or melon, or anything else into *five* equal parts, what would one of the parts be called? Ans. *One fifth.*

10. How many *fifths* make a whole thing?

LESSON LXI.

1. When a thing or number is divided into equal parts, what are the parts called?

Ans. FRACTIONS *of that thing or number.*

2. How are *fractions* expressed, or written?

Ans. *By two numbers, one over the other and a short line between them ; thus,* $\frac{1}{2}$, $\frac{3}{4}$.

3. What does the number *below* the line show?

Ans. *How many parts the thing is divided into.*

4. What does the number above the line show?

Ans. *How many of those parts you use.*

5. Into how many equal parts is the melon at Willie's right hand divided? Ans. 2.

6. Write the fraction that would express one of these 2 parts? Ans. $\frac{1}{2}$.

7. If each of those 2 halves were cut into two equal parts, into how many parts would the *whole* melon be divided? Ans. 4.

8. Express one of those parts by figures?

Ans. $\frac{1}{4}$.

One half.		$\frac{1}{2}$		
One fourth.	One fourth.	$\frac{1}{4}$		$\frac{1}{4}$
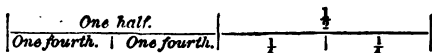
9. Write on your slate the following fractions?

$\frac{1}{2}$, one half. $\frac{1}{7}$, one seventh.

$\frac{1}{3}$, one third. $\frac{1}{8}$, one eighth.

$\frac{1}{4}$, one fourth. $\frac{1}{9}$, one ninth.

$\frac{1}{5}$, one fifth. $\frac{1}{10}$, one tenth.

$\frac{1}{6}$, one sixth. $\frac{9}{10}$, nine tenths.

LESSON LXII.

TABLES OF MONEY, WEIGHTS, MEASURES, Etc.

UNITED STATES MONEY.

The **Denominations** are, the Eagle, Dollar, Dime, Cent, and Mill.

10 mills (m.)	make	1 cent,	marked	ct.
10 cents	"	1 dime,	"	d.
10 dimes, or 100 cts.	"	1 dollar,	"	dol. or $.
10 dollars	"	1 eagle,	"	E.

United States or Federal money is the legal currency of the United States.

NOTE.—The mill is not a coin; it is used only in computations.

CANADA MONEY.

The table and denominations are the same as those of the United States money.

NOTE 1. The decimal currency was adopted by the Canadian Parliament in 1858, and the Act took effect in 1859.

2. Previous to the year 1859, the money of Canada was reckoned in pounds, shillings, and pence, the same as in England.

PARTS OF ONE DOLLAR.

5 cents $= \frac{1}{20}$ of a doll.	25 cents $= \frac{1}{4}$ of a doll.
6$\frac{1}{4}$ cents $= \frac{1}{16}$ of a doll.	33$\frac{1}{3}$ cents $= \frac{1}{3}$ of a doll.
8$\frac{1}{3}$ cents $= \frac{1}{12}$ of a doll.	37$\frac{1}{2}$ cents $= \frac{3}{8}$ of a doll.
10 cents $= \frac{1}{10}$ of a doll.	50 cents $= \frac{1}{2}$ of a doll.
12$\frac{1}{2}$ cents $= \frac{1}{8}$ of a doll.	62$\frac{1}{2}$ cents $= \frac{5}{8}$ of a doll.
16$\frac{2}{3}$ cents $= \frac{1}{6}$ of a doll.	75 cents $= \frac{3}{4}$ of a doll.
20 cents $= \frac{1}{5}$ of a doll.	87$\frac{1}{2}$ cents $= \frac{7}{8}$ of a doll.

LESSON LXIII.

ENGLISH MONEY.

The **Denominations** are, the Pound, Shilling, Penny, and Farthing.

4 farthings (qr. or far.)	make 1 penny,	marked	d.
12 pence	" 1 shilling,	"	s.
20 shillings	" 1 pound,	"	£.

5 shillings	make 1 crown,	"	c.
20 shillings	" 1 sovereign,"	"	Sov.
21 shillings	" 1 guinea,	"	G.

English or Sterling money is the currency of Great Britain.

VALUE OF SILVER AND GOLD COINS.

	$ cts.
An English shilling is worth . . .	0 24
" " crown " . . .	1 20
" " sovereign " . . .	4 84
" " pound " . . .	4 84
" " guinea " . . .	5 00
A franc of France " . . .	0 19
A five-franc piece " . . .	0 94

TROY WEIGHT.

The **Denominatio** are, the Pound, Ounce, Penny-weight, and Grain.

24 grains (gr.)	make 1 pennyweight,	marked	pwt.
20 pennyweights	" 1 ounce,	"	oz.
12 ounces	" 1 pound,	"	lb.

Troy weight is used in weighing gold, silver, and jewels.

LESSON L**I**V.

APOTHECARIES' WEIGHT.

The **Denominations** are, the Pound, Ounce, Dram, Scruple, and Grain.

20 grains (gr.) make 1 scruple, marked sc. or ℈.
 3 scruples   "   1 dram,   "   dr. or Ʒ.
 8 drams   "   1 ounce,   "   oz. or ℥.
12 ounces   "   1 pound,   "   lb. or ℔.

Apothecaries' weight is used in mixing medicines. But medicines are always bought and sold by avoirdupois weight.

AVOIRDUPOIS WEIGHT.

The **Denominations** are, the Ton, Hundred, Quarter, Pound, Ounce, and Dram.

16 drams (dr.) make 1 ounce,   marked oz.
16 ounces   "   1 pound,   "   lb.
25 pounds   "   1 quarter,   "   qr.
 4 quarters   "   1 hundred pounds " cwt.
20 cwt., or 2000 lbs." 1 ton   "   T.

Avoirdupois weight is used for all the ordinary purposes of weighing.

NOTE.—The *long* or *gross* ton, in which the *quarter* becomes 28 pounds, the *hundred weight* 112 pounds, and the *ton* 2240 pounds, is now seldom used except in estimating English goods, at the U. S. custom-houses, in freighting and wholesaling coal from the Pennsylvania mines, and in the wholesale iron and plaster trade.

The following denominations are also in use:

56 pounds make 1 firkin of butter.
196   "   "   1 barrel of flour.
200   "   "   1 "   " beef, pork, or fish.
280   "   "   1 "   " salt at N.Y. salt works.
 56   "   "   1 bushel of   "   "   "
 32   "   "   1 "   " oats.
 48   "   "   1 "   " barley.
 56   "   "   1 "   " corn or rye.
 60   "   "   1 "   " wheat.

LESSON XLV.
LIQUID MEASURE.

The **Denominations** are, the Hogshead, Barrel, Gallon, Quart, Pint, and Gill.

4	gills (gi.)	make 1 pint,	marked	pt.
2	pints	" 1 quart,	"	qt.
4	quarts	" 1 gallon,	"	gal.
31½	gallons	" 1 barrel,	"	bar.
2	barrels, or 63 gals.	" 1 hogshead,	"	hhd.

Liquid Measure is used in measuring liquids; as, liquors, molasses, water, etc.

NOTE.—The tierce, hogshead, pipe, butt, and tun, are the names of casks, and do not express any fixed or definite measures.

Ale or Beer Measure, formerly used in measuring beer, ale, and milk, is not a standard measure, and is almost entirely out of use.

NOTE.—When this Measure is used,

36 gallons	make	1 barrel of beer.
54 " or 1½ barrels	"	1 hogshead "

DRY MEASURE.

The **Denominations** are, the Chaldron, Bushel, Peck, Quart, and Pint.

2 pints (pt.)	make 1 quart,	marked	qt.
8 quarts	" 1 peck,	"	pk.
4 pecks	" 1 bushel,	"	bu.
36 bushels	" 1 chaldron of coal,	"	chal.

Dry Measure is used to measure all kinds of grain, fruits, roots, coal, salt, seeds, etc.

LONG MEASURE.

The **Denominations** are the Mile, Furlong, Rod, Yard, Foot, and Inch.

12 inches (in.)	make 1 foot,	marked	ft.
3 feet	" 1 yard,	"	yd.
5½ yards, or 16½ ft.	" 1 rod or pole,	"	rd.
40 rods	" 1 furlong,	"	fur.
8 fur. or 320 rods,	" 1 mile,	"	m.

Long Measure is used in measuring lines or distances.

LESSON LXVI.

Note.—Long Measure is used to measure cloth, and other goods sold by the yard, the yard being divided into halves, fourths, eighths, and sixteenths. The old table of *Cloth Measure* is practically out of use.

The following denominations are also in use:

4 inches	make 1 hand.	
6 feet	" 1 fathom.	
1.15 statute	" 1 geographical mile.	
3 geograph. miles,	" 1 league, marked	L.
60 geograph. " "	} 1 degree, " deg. or °.	
69.16 statute " "		
360 degrees	make a great circle of the earth.	

SQUARE MEASURE.

The **Denominations** are, the Square Mile, Acre, Rood, Square Rod, Square Foot, and Square Inch.

144 sq. in., (sq. in.)	make 1 sq. foot, mk'd sq. ft.	
9 square feet	" 1 sq. yard, " sq. yd.	
30¼ square yards	" 1 sq. rod, " sq. rd.	
40 sq. rods or perches	" 1 rood, " R.	
4 roods	" 1 acre " A.	
640 acres	" 1 sq. mile, " sq. m.	

Square Measure is used in measuring surfaces; as, land, boards, plastering, paving, etc.

SURVEYORS' SQUARE MEASURE.

The **Denominations** are, the Township, Square Mile, Acre, Square Chain, Square Pole, and Square Link.

625 square links, (sq.l.)	make 1 pole, marked P.	
16 poles	" 1 sq. chain, " sq. ch.	
10 square chains ·	" 1 acre, " A.	
640 acres	" 1 sq. mile, " sq. mi.	
36 sq. miles (6 miles sq.)	" 1 township, " T.	

Surveyors' Measure is used by surveyors, in computing the area or contents of lands.

Note.—A square mile of land is called a *section*.

LESSON LXVII.
CUBIC MEASURE.

The **Denominations** are, the Cord, Cord Foot, Perch, Ton, Cubic Yard, Cubic Foot, and Cubic Inch.

1728 cubic in. (cu. in.)	make 1 cu. foot,	mk'd cu. ft.
27 cubic feet	" 1 cu. yard,	" cu. yd.
40 cu. ft. round timber or	} 1 ton or load,"	T.
50 " " hewn "		
24¾ cubic feet	make 1 perch of stone,	Pch.
16 cubic feet	" 1 cord foot,	mk'd c. ft.
8 cord feet, or	} " 1 cord of wood,"	C.
128 cubic feet		

Cubic Measure is used for measuring solids; as, timber, wood, stone, etc.

NOTE.—A pile of wood 8 ft. long, 4 ft. wide, and 4 ft. high, contains 1 cord.

MEASURE OF TIME.

The **Denominations** are, the Century, Year, Month, Week, Day, Hour, Minute, and Second.

60 seconds (sec.)	make 1 minute,	marked m.
60 minutes	" 1 hour,	" h.
24 hours	" 1 day,	" da.
7 days	" 1 week,	" w.
4 weeks	" 1 lunar month,	" mo.
52 weeks	" 1 year,	" yr.
12 calendar mo. or 365 da.	1 year,	" yr.
100 years	make 1 century,	" C.

Time is the measure of duration, and is used to measure the exact periods in which events occur.

The following table gives the names of the 12 calendar months, in their order, and the number of days in each.

1. January has 31 days.	7. July has 31 days.
2. February " 28 days.	8. August " 31 days.
3. March " 31 days.	9. September " 30 days.
4. April " 30 days.	10. October " 31 days.
5. May " 31 days.	11. November " 30 days.
6. June " 30 days.	12. December " 31 days.

LESSON LXVIII.

CIRCULAR MEASURE.

The **Denominations** are the Circle, Sign, Degree, Minute, and Second.

60 seconds (″)	make 1 minute,	marked	′.
60 minutes	" 1 degree,	"	°.
30 degrees	" 1 sign,	"	S.
12 signs, or 360 deg."	the circle of the Zodiac, C.		

Circular Measure is applied to the measurement of circles and angles, and is used by surveyors, navigators, astronomers, etc., in making their calculations.

MISCELLANEOUS TABLES.

COUNTING.

The **Denominations** are, the Hundred, Score, Great Gross, Gross, Dozen, and Unit.

12 units or single things	make	1 dozen.
12 dozen, or 144 units	"	1 gross.
12 gross, or 144 dozen	"	1 great gross.
20 units or single things	"	1 score.
5 score	"	1 hundred.

PAPER.

The **Denominations** are, the Bale, Bundle, Ream, Quire, and Sheet.

|		
24 sheets of paper	make	1 quire.
20 quires of paper	"	1 ream.
2 reams	"	1 bundle.
5 bundles	"	1 bale

BOOKS.

The **Denominations** are, Folio, Quarto, Octavo, Duodecimo, etc.

A sheet folded in 2 leaves is called a Folio.

A sheet folded in 4 leaves   "   { a Quarto, or 4to.

A sheet folded in 8 leaves   "   { an Octavo, or 8vo.

A sheet folded in 12 leaves   "   { a Duodecimo, or 12mo.